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ABSTRACT

Curriculum material presented in this manual is for use in the development of an instructional program for drivers who either want or need to improve their driving performance. Three principal units are included: man and highway transportation, driver performance, and factors influencing driver behavior. Each unit is further divided into episodes which contain a specific objective for the episode, behavioral objectives, and three types of learning activities: (1) driver oriented, (2) teacher oriented, and (3) driver-teacher group discussions. Recommendations for evaluation of the program are included, as well as a list of thirty-eight resource materials and six films. (BL)

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IMPROVING DRIVER PERFORMANCE

A Curriculum for Licensed Drivers

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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FOREWORD

THE DEVELOPMENT *of safe driving habits among all American motorists is one of the principal objectives of the Highway Users Federation for Safety and Mobility. The most effective means to this end is embodied in the expansion and improvement of programs in traffic safety education and training.*

This education and training must be provided not only for teenagers who want a license to drive, but also for licensed motorists who want to improve—and, in many cases, should improve—their performance behind the wheel.

The effectiveness of this education and training is determined in large measure by the effectiveness of the curriculum through which they are provided. Educators have long recognized the need to determine precisely what skills comprise the driving task, and they have recognized the need to design an instructional program that will enable the mastery of these skills. Important progress in this direction has been noted during recent years.

In 1970, the Automotive Safety Foundation, an affiliate of the Highway Users Federation for Safety and Mobility, published A Resource Curriculum in Driver and Traffic Safety Education, *which provided recommendations for the design and implementation of an effective course of study for the preparation of beginning drivers. That publication set forth guidelines for decisions as to what must be taught and how best to teach it.*

The Resource Curriculum *was devoted to the education and training of Students learning how to drive for the first time. It did not deal with programs directed toward drivers who, for one reason or another, either want or need to improve their driving performance.*

This area also is seriously in need of attention. Obviously, many licensed drivers and many drivers without licenses perform inadequately behind the wheel, endangering the lives of themselves and others, and causing millions of dollars in property damage annually.

Recognizing this social problem, the Automotive Safety Foundation engaged in 1964 Dr. William A. Mann, professor of education at Michigan State University, as a consultant on a nationwide survey of driver improvement schools. His extensive analysis cited the need for research in course curriculum and teaching techniques.

Dr. Mann's findings were reviewed in 1965 during the National Conference on Driver Improvement Instructional Programs held at Michigan State University and sponsored by the Automotive Safety Foundation in cooperation with other organizations interested in upgrading programs to improve driver performance.

The conferees established broad outlines for the development of curriculum recommendations, pointing out that "referral practices, class composition and size, available time and similar factors have an important bearing on planning course content."

Using the conference recommendations as a basis for further study, the Highway Users Federation for Safety and Mobility staff conducted a survey of previous research in driver improvement curricula.

The Federation staff then drafted the unit objectives, the episode objectives and the segment objectives to implement the critical concepts of the driving tasks which were established by the Human Resources Research Organization under a contract with the Federal Government. This material, in addition to recommendations for learning activities, resource material and evaluation procedures, was further refined with the assistance of specialists in curriculum development and driver improvement programs.

The curriculum and instructional techniques presented herein are the result of many hours of research and labor performed by specialists who have dedicated their careers to the improvement of programs in driver education and training.

This publication is the synthesis of the total knowledge provided by numerous educators and consultants, and it is offered with the confidence that it will become an important contribution to the improvement of driver performance throughout the United States.

In the final analysis, however, its value will be determined by the educators who daily face the challenge of saving lives by teaching others how to drive safely on the Nation's highways.

D. GRANT MICKLE

President

Highway Users Federation for
Safety and Mobility

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ALLEN E. BARD
Traffic Safety Specialist
Michigan Department of State Office of Driver and Vehicle Administration
Planning and Analysis Operations
Lansing, Michigan

JAMES R. BERRY
Director
Transportation Safety Program
Accident Prevention Laboratory
University of Iowa
Oakdale, Iowa

DR. RICHARD W. BISHOP
Associate Professor
Department of Physical Education
Florida State University
Tallahassee, Florida

OWEN L. CRABB
Driver Education Specialist
Maryland State Department of Education
Baltimore, Maryland

CALVIN M. FAULKNER
Supervisor
Driver Education
Baltimore Public Schools
Baltimore, Maryland

NORMAN E. GODDEN
Supervisor
Driver Education Section
Allstate Insurance Company
Northbrook, Illinois

DR. RICHARD KAYWOOD
Coordinator
Safety and Driver Education
California State College
Long Beach, California

DR. WILLIAM A. MANN
Professor
College of Education
Michigan State University
East Lansing, Michigan

BENJAMIN H. PLOOF
Coordinator
Driver Improvement
Aetna Life & Casualty
Hartford, Connecticut

DR. W. LAURANCE QUANE
Assistant Professor
Traffic and Safety Section
Illinois State University
Normal, Illinois

JOHN D. RODOLF
Educational Consultant
Traffic Engineering and Safety Department
American Automobile Association
Washington, D. C.

DR. C. HARDING VEIGEL
Associate Professor of Safety
Safety Center
Central Missouri State College
Warrensburg, Missouri

PROJECT DIRECTOR

ALLEN R. ROBINSON
Highway Safety Specialist, Highway Safety Division
Highway Users Federation for Safety and Mobility

INTRODUCTION

ALTHOUGH THE REASONS for faulty driving can be subjected to some degree of classification, the education and training needs of problem drivers are as complex and varied as the drivers themselves.

What are the psychological problems of the drunken driver? Why do some drivers habitually follow too close to other vehicles, drive too fast, or fail to pay attention to traffic conditions? What is the root cause of carelessness, and what are the real needs of the careless driver?

Furthermore, are the individual needs identical among a classroom of persons convicted of various driving offenses? In what way do the needs of this group differ from those of a group convicted of driving without a license? In what way do the needs differ within each of these groups?

These and a myriad of other questions relative to the performance of the driving task go unanswered.

For this reason, no single curriculum for courses in driver improvement can be rigidly applied to all of the persons who enter the classroom through three principal routes: voluntary participation, referral by court, or referral by a licensing agency.

Arriving at the classroom along these diverse routes, the adults in driver improvement courses bring with them a wide variety of motivations, emotional dispositions and needs. Therefore, the curriculum recommended in this publication must be used as a reference source in the development of an instructional program which meets the specific needs of a specific group.

The improvement of driver performance will be the primary purpose of any course structured on the curriculum presented.

This purpose is accomplished through improvement of driver performance of the four human functions involved in the driving task: identification, prediction, decision and execution.

The first step in the development of an instructional program involves the selection of the various driving tasks (i.e., Basic Control, Roadway Assessment, etc.), which need emphasis in the course. With this information established, it then becomes necessary to identify the behavioral objectives and the course content appropriate for the achievement of those objectives.

Behavioral objectives define program content, methods of instruction and the means for evaluation. A behavioral objective includes three basic parts: it identifies the overt performance required to satisfy the objective; it describes the condition under which the performance will be executed; it specifies the minimum level of acceptable performance for completion of the objective.

Consider, for example, the following behavioral objective: Given a series of traffic situations where one is being followed by another vehicle (condition), the driver will identify hazardous cues (performance) and select measures most likely to reduce the probability of conflict (minimum level of performance) with the following vehicle and other highway users.

A firm determination of behavioral objectives is essential. In this way, the instructor provides himself with specific guidelines for instruction; the student knows what is expected of him, and both will be able to evaluate the effect of the instruction.

Once the behavioral objectives are clearly understood, the needs of the students must be analyzed in order to determine the learning activities and resource materials which will be used to accomplish the stated objectives.

The course is divided into three principal units: Man and Highway Transportation; Driver Performance; and Factors Influencing Driver Behavior. Each unit is further divided into episodes.

Each episode contains learning activities which will assist the driver in accomplishing the behavioral objectives.* These learning activities are of three types: (1) driver oriented; (2) teacher oriented; and (3) driver-teacher group discussions.

*Additional behavioral objectives as well as content information pertinent to these objectives can be found in *A Resource Curriculum in Driver and Traffic Safety Education*, published by the Automotive Safety Foundation.

THE NATURE OF DRIVER BEHAVIOR

The Four Human Functions

- Identification
- Prediction
- Decision
- Execution

Control Performance of the Six Driving Tasks

- Basic Control
- Roadway Assessment
- Traffic Assessment
- Environmental Assessment
- Vehicle Assessment
- Coping With Mishaps

Which Are Adversely Influenced by

- Alcohol
- Physical Impairments
- Emotional Stress
- Drugs
- Anti-Social Personality
- Carelessness

UNIT I

MAN AND HIGHWAY TRANSPORTATION

Objective: *Drivers will define the highway transportation system and give examples of how the driving task, through the use of human functions, provides safe, efficient and convenient movement of people and goods.*

THIS UNIT provides an overview of the goals, components and forces involved in the highway transportation system. After the highway transportation system is described in Episode 1 as a complex man-machine system, the drivers are assisted in determining the ways in which they can contribute to the efficiency and improvement of the system.

The driving task is the means by which a driver functions within the highway transportation system. Episode 2 provides an analysis of the driving task as a guide in helping drivers to determine how the proper operation of a motor vehicle contributes to the safety and efficiency of the system.

Human functions—mental as well as physical—are involved in performing the driving task. These functions are explained in Episode 3. Regardless of whether the operator is negotiating a curve, passing another vehicle, or parking, he must identify the traffic scene, make predictions and decisions and execute these decisions. This background information is important in driver improvement because the functions serve as fundamental concepts, connecting points, and goals for the curriculum.

In teaching the human functions of driving, it must be emphasized that they interrelate and interact. They are separated in the presentation of the unit only for the purpose of analysis. Furthermore, the functions are not necessarily performed consciously; in fact, they rarely are.

Unit I Man and Highway Transportation

Episode 1.0 Man and the System

Objective: The driver will be able to define the highway transportation system as a rather complex man-machine system whose purpose is the safe, efficient and convenient movement of people or goods from place to place.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
The driver will be able to identify and describe the characteristics of the highway transportation system. The driver will be able to define the purpose of the highway transportation system.	Given the definition and simple examples, drivers will identify the major components of the highway transportation system. Show a portion of a film and ask drivers to identify components and characteristics of the highway transportation system. Following this film (5 minutes), write on the board key points elicited from class members and then form generalizations that define the highway transportation system. *Components:* Vehicles (cars, trucks, motorcycles) Drivers (young drivers, older drivers) Highways (interstate, two-lane roads, city streets) Ask the following question: What is the purpose of the highway transportation system? Write key words on the board and build a statement defining the purpose of the highway transportation system.

Unit I Man and Highway Transportation

Episode 2.0 Man and the Driving Task

Objective: The driver can define driving as consisting of the making of skilled and properly timed actions under varying road and traffic conditions which are dependent upon accurate identification and predictions.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
The driver will be able to analyze the numerous sub-tasks which he performs as a member operating within the system. Analysis will include identification and description of: 1) basic control tasks; 2) tasks required because of highway events, traffic events and environment; 3) tasks involved in the operation of various sub-systems within the vehicle; 4) tasks required after a collision; and 5) travel planning and preparation tasks.	Instructor utilizing a transparency of "The Nature of Driver Behavior" will present an overview of driver behavior that will be covered in the course "Improving Driver Performance."

Unit 1 Man and Highway Transportation

Episode 3.0 Man and the Human Functions

Objective: The driver will be able to perform, at a level of proficiency needed for safe and efficient operation of vehicle, the driving task through the use of the human functions of identification, prediction, decision and execution.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
The driver will demonstrate his ability to *identify*, in an efficient and effective manner, the pertinent elements and conditions for guiding the vehicle in a given situation.	Given a series of driving situations (slides, film clips or overhead transparencies), the driver will classify the elements present according to: 1) traffic controls; 2) other users; 3) environmental and roadway factors; and 4) inside the vehicle.
The driver will *predict* using present strategies, the interaction of the components of the highway transportation system for given situations.	Provide a series of exercises designed to develop a driver's ability to identify information from his enviroment. 1) Flash slides of digits for increase in span of recognition, quickness of response and attention or awareness. 2) Traffic sign recognition slides for symbols, written legends, shape, etc. 3) System environment scenes are classified for selection of traffic controls, other users, highway elements and various combinations. 4) Film clips of typical and emergency traffic situations.
The driver will *decide* the best response to assure a clear path of travel within the existing traffic and environmental conditions.	When driving in a real or simulated situation, the driver will demonstrate proper visual habits by establishing a two-second following distance and focusing his attention on events which are occuring at a 12-second distance ahead.
Under varying road and traffic conditions, the driver will be able to demonstrate his ability to *execute* skilled and properly timed actions based upon identification, prediction and decision-making.	Provide the drivers with a series of critical situations (via diagrams) where a quick response is needed to avoid or reduce the impact of a collision and have them select the better course of action from the alternatives given for each situation. While driving in a real or simulated environment, the driver, when given problem traffic situations, will identify the various pathways available and rank the choices in terms of consequences. The driver will explain the concepts of assessing and predicting the actions of other users of the system. When operating in a real or simulated driving situation, the driver practices the identification of hazards and the prediction of user interactions involving spacing, timing, speeds, braking distances and risk-taking.

UNIT II

DRIVER PERFORMANCE

Objective: *Drivers will be able to explain, describe or identify with the use of instructional aids the driving tasks which enable them to interact with other highway users in both routine and critical situations.*

THIS UNIT is devoted to the proper performance of the driving tasks: basic control, roadway assessment, traffic assessment, environmental assessment, vehicle assessment and coping with mishaps.

Each of the tasks should be related to the human functions of identification, prediction, decision and execution.

Although driver improvement schools generally are not equipped with driver trainers, motor vehicles and other equipment for actual practice of the basic skills, the classroom instructor is able, nevertheless, to improve the student's performance of these skills.

This instructional process is accomplished, for the most part, with films, slides, magnetic boards, and other training aids suitable for classroom use.

Because of the equipment limitations faced by most driver improvement schools, it is most important that the instructor plan with maximum care the lectures related to this unit. The careful integration of lecture material with the classroom demonstration materials that are available will enable the instructor to provide students with a better understanding of the driving fundamentals which make for safety on the highways.

This unit is directed toward the development of skills and techniques for control of the car, safe movement within traffic flow, maneuvering at intersections, and coping with hazardous situations.

Unit II Driver Performance

Episode 1.0 Basic Control Tasks

Objective: The driver will maintain basic control of his vehicle through proper use of steering control, accelerator and brake control

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
Driver demonstrates ability to maintain proper lane position over a selected driving route.	Given a series of situations by means of magnetic board, diagrams, slides, filmstrips or films, the driver will identify those elements that affect directional control. Examples: 1) Steering Control (a) Line of sight (b) Steering manipulation and steering malfunctions (c) Basic control problems in aiming low 2) Acceleration (a) Changes in speed and affect on degree of steering movement (b) Effect of speed on weight of vehicle (c) Adjustment of line of sight as speed increases (blur effect)
Driver demonstrates ability to maintain vehicle-roadway stability under adverse surface conditions and during emergency stops.	3) Brake Control (a) How locking the brake effects directional control (b) How pumping the brake effects directional control (c) How different type road surfaces effect directional control while braking (d) Weather effects (rain, snow, ice, wind, etc.) (e) Types of tire and tire condition (over-inflation, under-inflation, bald tire, new tread, wide oval tire, snow ties and studs) Demonstration with actual car in the area of brake control. In-car practice in steering, acceleration and braking.

Unit II Driver Performance

Episode 1.0 Basic Control Tasks—(*cont.*)

Objective: The driver will maintain basic control of his vehicle through proper use of steering control, accelerator and brake control.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
	Demonstrate sliding friction by utilizing different materials for the two surfaces, noting the changes in the resistance (friction) as the various materials are employed. For example: Use a book and a desk surface; then substitute metal, wood and rubber for the book; alter the desk surface by adding sand, lubricant, water, etc. Learners classify the causes, prevention and correction of traction losses utilizing the following chart: *Traction Loss* *Causes* *Prevention* *Correction* Overpowering Overbraking Turns and Curves Unequal Traction Hydroplaning Mud, Sand or Snow (Have learners formulate personal guidelines using the completed chart as a resource.)

Unit II Driver Performance

Episode 2.0 Movement Within Traffic Flow

Objective: Using human functions, drivers will operate a motor vehicle in specific "fore and aft" relations with other highway users.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
Given a series of traffic situations involving "fore and aft" relationships, identify relevant cues and select measures under operator control that will reduce the probability of conflict with other highway users.	Diagram specific traffic situations that affect "fore and aft" relationships and ask the following questions: 1) What effect does lateral lane positioning have on following distance? 2) On multiple lanes, what effect would lane selection have on your relationship with other vehicles? 3) How does the interval between you and the car you are following assist you in controlling the vehicle behind? Select slides and filmstrips of traffic situations and discuss each situation as it applies to lane positioning, lane selection, following distance and control of the driver behind. Select films that contain scenes which relate to the above. Demonstration of all the above by actually observing traffic where applicable. Demonstration of all the above by actually driving in traffic. The same types of activities and visuals can be used for meeting an oncoming vehicle. Diagrams can be used for demonstrating proper procedures in passing, being passed and lane changing procedures.
Describe the correct step-by-step process for passing another vehicle going in the same direction. Description should include the rationale for each step.	

Unit II Driver Performance

Episode 2.0 Movement Within Traffic Flow—(*cont.*)

Objective: Using human functions, drivers will operate a motor vehicle in specific "fore and aft" relations with other highway users.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
	Slides, filmstrips and films can be used in the same manner as used in "fore and aft" relationships by analyzing proper and improper aspects of those visuals used. List proper and reasonable reactions of how to avoid side-swipe crashes in passing, being passed and lane changing maneuvers. Identify risks involved in various situational problems; drivers select or list actions that should minimize the risks. When operating in a real or simulated driving situation, the driver practices the assessment of hazards and the evaluation of user interactions involving spacing, timing, speeds, braking distances and risk-taking.

Unit II Driver Performance

Episode 3.0 Intersections

Objective: Drivers will apply all human functions, promptly and precisely, to avoid conflicts in various types of intersections.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
When shown approach positions to various kinds of intersections, identify and appraise relevant means of handling the situation.	1) (a) Driver(s) utilizing visuals of various local intersections to illustrate factors peculiar to their locale. (b) Use photographs, slides or other visual displays depicting various types of intersections; learners identify relevant cues and effective means of handling situations. Driver verbalize on what visual checks will facilitate a safe intersection maneuver. (c) Use of selected portions of time-lapse filmstrip (Ford Motor Company) relating to intersections. (d) Use visuals to determine correct lane position for approach to left and right turns.
Given a series of diagrams or pictures of various kinds of intersections, describe how to execute turning movements. Description should include lane and speed choices and communication techniques.	2) (a) Utilize visuals to discuss individual intersections which require various compensations in regard to speed, lane choices and communication techniques. (b) Use animated portions of films to depict proper turning execution. (c) Use slides to demonstrate different eye movement and eye fixation in making turns. (d) Use illustrations of proper hand-over-hand steering and recovery. Explain the problems relative to over-steering and under-steering. (e) Drivers develop a list of possible and potential hazards involved in executing intersection maneuvers.
Drivers will identify the mental errors committed by vehicle operators which result in railroad crossing accidents, and how these errors can be overcome. In addition, drivers will be able to describe the proper steps to follow if their car stalls on railroad tracks.	3) Driver(s) presentation involving railroad crossings and their implications for safe motor vehicle operation. Use photographs (taken by individual learners) of local hazardous railroad crossings to illustrate mental errors committed by vehicle operators at railroad crossings. Individual learners develop a list of driver behaviors that will prevent death and injury at railroad crossings.

Unit II Driver Performance

Episode 3.0 Intersections—(*cont.*)

Objective: Drivers will apply all human functions, promptly and precisely, to avoid conflicts in various types of intersections.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
	4) Through the use of traffic accident collision diagrams, illustrate types of mishaps occurring at intersections. (Include time of day, day of week, time of year and weather conditions.) Given an intersection where a series of decision-making exercises are required, the learners describe the best plan of action to take.

Unit II Driver Performance

Episode 4.0 Critical Situations

Objective: Each driver will be able to cope with critical situations caused by hazardous environmental conditions, mechanical malfunctions and/or unexpected actions by other highway users.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
Drivers will identify and select proper responses to critical situations initiated by mechanical malfunctions	Through the development of a display of worn and defective auto parts, the learners will identify possible mechanical malfunctions; predict the consequences of failure of such parts; determine how best to prevent such failure; and execute preventive maintenance.
Drivers will identify and select proper responses to critical environmental situations caused by man or nature.	List in proper sequence the steps drivers should follow in order to successfully cope with the following vehicle malfunctions and failures when they occur while driving: 1) brake failure; 2) tire failure; 3) steering failure; 4) stuck accelerator; 5) headlight failure; 6) hood flies up; 7) engine stalls; and 8) emergency stops
Given a number of traffic situations, the driver will identify unusual and unexpected actions by other highway users and list visual cues that may predict these situations.	Through a visual presentation, the learners will identify man-made roadside hazards existing along the roadway; predict possible consequences of such misplacement or selection of particular hazard; and decide possible alternative driving patterns to compensate for such hazards. Through a visual presentation, the learners will identify natural roadside hazards (trees, gullies, large rocks, etc.), which pose possible obstacles to safe driving; predict possible consequences of contact with such obstacles; and decide on possible solutions to coping with such hazards.
The driver will explain the factors which determine the force of impact on car and passengers in the course of a collision, and identify specific elements inside and outside the car to minimize these effects.	Through the use of a film or slides depicting adverse weather and road conditions, the learners will identify hazardous driving conditions; predict possible situations arising from driving in such conditions; and decide on the best methods of coping with the various problems. Through the use of a film, the learners will identify potential emergency situations arising from the unexpected actions of other drivers; predict such actions from visual cues; and decide upon a possible reaction to such a possible unexpected action. Discuss best methods of executing evasive actions.

Unit II Driver Performance

Episode 4.0 Critical Situations—(*cont.*)

Objective: Each driver will be able to cope with critical situations caused by hazardous environmental conditions, mechanical malfunctions and/or unexpected actions by other highway users.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
	Through the development of a comprehensive listing of the various highway transportation components, the learners will identify the consequences of a malfunction of any component; predict possible repercussions; and decide on the best execution of a driving maneuver to compensate for the breakdown. Using slides or overhead transparencies of traffic scenes, the driver will select important elements within the scene and: 1) evaluate each for the hazard and risk which each presents; 2) formulate the alternative actions which could be taken with respect to each hazard; and 3) predict the probable actions which other users would take with regard to your movements and their reaction to the hazards. Drivers diagram several driving situations which may "trap" a motorist into an accident and: 1) explain the predictable events or actions; 2) indicate the best possible escape routes; and 3) choose the lesser consequences. Have drivers prepare a description of an emergency situation for presentation to class. It may be a personal experience, or one you have heard about or it may be invented. Analyze the problem and determine: 1) how the situation might have been prevented from developing; and 2) the best course of action that should be followed. Through class discussion, prepare a chart listing the factors which determine the amount of force exerted on a car and its passengers in a collision. Indicate the factors over which the driver has control and the pre-collision preparation which the driver can take to minimize the effects of the collision on the occupants. Have drivers read *How to Handle Driving Emergencies* (published by the Highway User Federation for Safety and Mobility).

UNIT III

FACTORS INFLUENCING DRIVER BEHAVIOR

Objective: *Drivers will be able to: (1) describe the physical, social, mental and psychology factors that adversely influence driver behavior, and (2) determine the changes which should be made to minimize hazards caused by these factors.*

THIS UNIT presents the factors that adversely influence the human functions of identification, prediction, decision, and execution.

It is important that the drivers understand the manner in which these factors adversely influence their behavior behind the wheel.

This concept is instilled among members of the class through group discussions, presentations by those drivers who display the greatest motivation to improve, and through lectures by the instructor.

This unit of the course is of utmost important because it is directed toward a change in attitudes which the drivers themselves must bring about. Their key to driver improvement lies in the development of a wholesome, positive attitude toward the driving task, toward the importance of safety and toward the rights of others.

Unit III Factors Influencing Driver Behavior

Episode 1.0 Alcohol

Objective: Vehicle operators will identify accurate information concerning the alcohol problem; examine and clarify their feelings and attitudes toward drinking and driving; and develop a plan for handling situations involving drinking and driving.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
Describe what happens to alcohol in the body from the time it is first ingested until it is eliminated.	Present group with information that traces alcohol from the time it enters the body until it is eliminated.
	Provide an exhibit, pictorial chart, slide or overhead transparency to demonstrate the relative amounts of alcohol in different types of alcoholic beverages.
Given a list of body functions (speech, vision, judgment, coordination, etc.) in random order, arrange them in the sequence these functions would be impaired by increasing amounts of blood alcohol concentration.	From a prepared random list of body functions which are affected by alcohol, conduct a group-centered discussion on the order in which these functions are affected.
	Demonstrate vision impairment by projecting a driving scene and then placing filters (or possibly smearing a thin layer of petroleum jelly on a clear acetate) between the lens and the screen.
Identify (1) individual differences which determine the manner and degree with which people are influenced by alcohol and (2) the conditions which cause the same individual to be affected more at one time than another.	Conduct group-centered discussion from a prepared list of common misconceptions or remedies for sobering up or minimizing the effects of alcohol (e.g., coffee, food, cold shower, etc.).
	Present a prepared pictorial chart or slide of various blood level concentrations and the degrees of impairment. Conduct a student-centered discussion on the legal limits of intoxication and whether the legal limit is the same as the safe limit.
Describe the effects of alcohol on the human functions involved in driving (IPDE) in the order that these effects are likely to occur as the concentration level of alcohol increases.	Present the group with information on sobriety tests for impairment and chemical tests for intoxication.
	Conduct group discussion on motivations that prompt individuals to drink and drive.
Identify and appraise motivations that prompt people to drink and drive.	Brainstorm in small groups on the impairments of the operator functions involved in identification, prediction, decision and execution.
	Lead group-centered discussion for the development of personal guidelines when making decisions related to driving after drinking.
Develop personal guidelines for behavior that will minimize the risks.	List various illnesses and disabilities which simulate the effects of intoxication as a means of stressing the positive side benefits of chemical tests for intoxication.

Unit III Factors Influencing Driver Behavior

Episode 2.0 Drugs and Driving

Objective: Display accurate information regarding drug use as related to driver performance and develop guidelines for making personal decisions.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
Describe the effects of various types of drugs (including medicines, stimulants, depressants, hallucinogens) on body functions and how these effects can influence driver performance.	Display containers of various over-the-counter and prescription drugs. Have various students read labels listing possible side effects and the advisability of driving after using drugs.
Describe the synergistic effects in the use of drugs.	Conduct group-centered discussion on the general classification of common drugs (legal and illegal) and their effect on driver behavior.
Formulate a set of personal guidelines for avoiding harmful effects of drug misuse.	Present information to the group on the possible effect of the use of a combination of drugs. (The impairment of body functions may be far greater than if either drug were taken by itself.)
	Lead group-centered discussion for the development of personal guidelines in considering driving after drug usage.

Unit III Factors Influencing Driver Behavior

Episode 3.0 Emotions

Objective: Individuals will identify the effects of emotions on driver performance and will suggest means of coping with these emotions.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
Identify the emotions brought to the driving situation which may affect performance.	Raise questions as stated in objective. Sub-group discussion and report to class. Instructor fills in omissions.
Identify the emotions which result from the action of passengers, other drivers, or traffic environment.	Assign questions as stated in objective. Sub-group discussions and report to class. Instructor summarizes and fills in omissions.
Identify situations that may induce driver frustrations and formulate personal guidelines for handling such situations.	List the effects of strong emotions on human functions related to driving and indicate how the driver can cope with these effects.

Unit III Factors Influencing Driver Behavior

Episode 4.0 Personality Factors

Objective: Identify those personality factors which influence an operator's performance and develop personal guidelines for implementing a self-analysis and self-improvement program as a vehicle operator.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
1) Identify and appraise the values that compete with safety in decisions involving risks on the highway. 2) Explain why: (a) some drivers take more risks than others in similar situations; and (b) the same driver takes more risks at one time than another.	**GENERAL STATEMENT** In this episode, method becomes all important. The purpose is not to convey information, but rather to help operators examine internal forces that influence behavior. Operators will draw on their personal experiences through a series of searching questions posed by the instructor. These questions are designed to provoke and encourage self-analysis, as an essential step toward self-improvement. To manage effectively the question-discussion method suggested here, the instructor must step out of his customary role as the repository and conveyer of knowledge and become more like a counsellor. He must listen more than talk, and avoid "preachments" when he does talk. In short, the purpose of the question process is to help operators derive guidelines basic to the development of *internal* standards for responsible behavior. ********** The following questions suggest some direction for the discussions. (NUMBERS CORRESPOND TO SPECIFIC OBJECTIVE.) 1) How do you feel about "safety first" as a personal motto in driving? Is it valid? Why or why not? If safety does not always come first, what criteria determines its weight in the driver's decision-making process? 2) During the last week, what are some of the risks that you saw other people take while driving? In each example, what did the operator stand to gain by taking the risky action? What about the potential loss? Would you have made the same decision? Why do some drivers, as a rule, take more risks than others in similar circumstances?

Unit III Factors Influencing Driver Behavior

Episode 4.0 Personality Factors—(*cont.*)

Objective: Identify those personality factors which influence an operator's performance and develop personal guidelines for implementing a self-analysis and self-improvement program as a vehicle operator.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
3) Explain how self image influences driving behavior. 4) List the personal needs which drivers sometimes try to satisfy on the highway (other than transportation) and indicate the type of behavior likely to be induced by these needs. 5) Identify beliefs, attitudes and feelings in self and others which aid or impair driving performance (IPDE).	Does a vehicle operator always select the same alternative when confronted by similar situations? If not, what factors cause him to reach a different decision? Have you noticed any examples in recent weeks to illustrate your answer? What controls can you impose on yourself to help you select appropriate responses consistently? 3) If a person views himself as a possessor of any one of the following traits, how will his behavior be affected by his self image? Give examples. (a) courteous (b) emotionally stable (c) aggressive Does your self image (as a driver) tend to perpetuate itself? What evidence do you have to support your answer? 4) Simply raise the question as suggested by the objective. If the groups are large, the instructor may prefer to use the small group discussion technique. 5) How do you react to the following statement: Two drivers with comparable knowledge and motor skills related to driving can be at opposite ends of the driving competency continuum. In other words, one could be highly competent and the other incompetent.* *From the discussion triggered by this statement, operators will see that belief, attitudes and feelings make a difference in how we drive.

Episode 4.0 Personality Factors—(*cont.*)

Objective: Identify those personality factors which influence an operator's performance and develop personal guidelines for implementing a self-analysis and self-improvement program as a vehicle operator.

BEHAVIORAL OBJECTIVE	LEARNING ACTIVITIES
6) Describe the influence that a group can have on the indidivual and suggest measures coping with this influence.	Give an example which you observed recently to illustrate how an attitude or a belief can influence driving behavior. Name some specific beliefs or attitudes that interfere with effective performance on the highway. Name some that promote safe and efficient behavior. 6) The desire for acceptance within a preferred group has an influence on risk acceptance and behavior in general. Have you observed any examples of this principle that are related to driving? How can you keep from being "swept up" by group influence and acting in violation of your better judgment?
7) Compare the way in which we interact with other people on the highway with our behavior in other social settings.	7) Which of the following statements do you agree with? Defend your selection. (a) People change when they get behind the wheel of a motor vehicle. They act in anti-social ways that are not typical of their behavior in other settings where they interact with people (Jekyll-Hyde concept). (b) People tend to "drive as they live." If they are courteous, tolerant and friendly off the highway, they display those same traits when driving.
8) Identify our own strengths and limitations as vehicle operators, decide which need improvement, and develop practical guidelines for implementing a self-improvement program.	8) What do you feel are your main strengths as a driver? Your main weakness? What beliefs or attitudes brought on by the motor vehicle would you like to discard or change? Is it possible for a person to change either his needs, attitudes or feelings and their effect on driving? How? Would you identify a way in which you might drive differently during the coming week—something which is under your conscious control? Will you make this modification for one week and then report how this change affected your experiences on the roadway? How do you feel about continuing this self-improvement process?

EVALUATION

THE RECOMMENDED curriculum for driver improvement programs is predicated upon the accomplishment of the behavioral objectives established in the introduction of this publication and developed in each of the three units of instruction.

Adherence to the objectives will establish for the instructor and the drivers precisely what is expected of them. It will provide the mutual understanding and the sameness of purpose which are absolutely essential to the development of rapport among all participants in the program.

But, the degree to which this rapport is maintained and the degree to which the rapport leads to an achievement of the objectives are intangible qualities which will go unassessed unless special attention is paid to them.

For this reason, it is important that the instructor perform two evaluations.

The first evaluation involves the drivers themselves. They should be tested at the beginning of the course, at regular intervals during the course, and at the end of the course. It is important that the tests be so designed as to reveal changes in attitudes among the drivers and their reaction to the content of the course.

This information is then used to perform the second evaluation: that of the course itself.

A continuing evaluation of the course is essential if the instructor and the material he presents are to accomplish the established behavioral objectives.

In the final analysis, the on-the-road performance of drivers after completion of the course provides the most critical assessment of its effectiveness.

In the light of this reality, the instructor should provide for a survey of graduates to determine their lasting reactions to the course and their records of performance behind the wheel.

RESOURCES

1. Allstate Insurance Companies. "The Drunk Driver May Kill You," (Northbrook, Illinois), no date.
2. Allstate Insurance Companies. "Perception of Driving Hazards Test," Driver Education Section, (Northbrook, Illinois), 1970.
3. American Automobile Association. *How to Drive*, (Washington, D. C.), 1971.
4. Automotive Safety Foundation. *A Resource Curriculum in Driver and Traffic Safety Education*, (Washington, D. C.), 1971.
5. Bloomer, Richard H. "Perceptual Defense and Vigilance and Driving Safety, "*Traffic Quarterly*, October, 1962.
6. Borkenstein, R. F. "A Realistic Approach to Drinking and Driving," *Traffic Safety*, National Safety Council, (Chicago, Illinois), 1970.
7. Carney, Eugene D. "Decision-Making and the Driving Task," *California Journal of Traffic Safety Education*, California Driver Education Association, (Anaheim, California,) March, 1970.
8. Christie, William E. "Goals Before the Class - The Driving Task," *California Journal of Traffic Safety Education*, California Driver Education Association, (Anaheim, California), March, 1970.
9. Crabb, Owen L. "A Three Point Technique to Position Yourself in Traffic," *Journal of Traffic Safety Education*, California Driver Education Association, (Anaheim, California), January, 1971.
10. Fine, J. L., J. L. Malfetti and E. J. Shoben, Jr. "Columbia Driver Judgment Test," Safety Research and Education Project, Teachers College, Columbia University, (New York, New York), 1964.
11. General Programmed Teaching. *Designing Effective Instruction*, A Division of Commerce Clearinghouse, Inc., (Palo Alto, California), 1970.
12. Highway Users Federation for Safety and Mobility. "Alcohol and the Driving Task," *Driver and Traffic Safety Education Research Digest*, (Washington, D. C.), 1971.
13. Highway Users Federation for Safety and Mobility. *How to Handle Driving Emergencies: A Program for Driver and Traffic Safety Education*, (Washington, D. C.), 1971.
14. Highway Users Federation for Safety and Mobility. "Personality Factors and the Driving Task," *Driver and Safety Education Research Digest*, (Washington, D. C.), 1971.
15. Highway Users Federation for Safety and Mobility. *Preparation and Use of Instructional Modules in Driver and Traffic Safety Education*, (Washington, D. C.), 1971.
16. Highway Users Federation for Safety and Mobility. "Visual Perception and the Driving Task," *Driver and Traffic Safety Education Research Digest*, (Washington, D. C.), 1970.
17. Human Resources Research Organization. "Task Descriptions," (Volume I), *Driver Education Task Analysis*, Washington, D. C.), 1970.
18. Insurance Institute for Highway Safety. "Alcohol Report," (Physician offers guide for drivers who drink), (Washington, D. C.), June, 1968.
19. Insurance Institute for Highway Safety. "The New Realism in Coping with the Drinking Driver." (Background report), (Washington, D. C.), August, 1968.
20. Mager, Robert F. *Analyzing Performance Problems* (or "You Really Oughta Wanna"), Fearon Publishers, (Belmont, California), 1970.
21. Mager, Robert F. *Preparing Instructional Objectives*, Fearon Publishers, (Belmont, California), 1962.
22. Malfetti, James L. *A Description of the Driving Task Adaptable for a Manual for Beginning Drivers*, Teachers College, Columbia University, (New York, New York), 1970.
23. Mann, William A. "Let's Talk It Over," *Analogy* (Charter Issue), Allstate Insurance Companies, (Northbrook, Illinois), 1968.
24. Mann, William A. "Using Group Dynamics for Better Driver Education," Michigan State University, College of Education, (East Lansing, Michigan), no date.
25. Marsh, Burton. "Aging and Driving," (A paper presented in response to the 1960 Theodore M. Matson Memorial Award), *Traffic Engineering*, November, 1960.
26. McGlade, Francis S. *The McClade Road Test for Use in Driver Education*, Education and Employment. Abridged Manual, New York University, Center for Safety Education, (New York, New York), 1962.
27. Meyerhoff, Richard A. "Teaching Emergencies," *California Journal of Traffic Safety Education*, California Driver Education Association, (Anaheim, California), October, 1969.
28. Myrick, R., L. Schlesinger and B. Marx. *A Manual for Instructors Conducting Discussions on Driving Attitudes*, The George Washington University, (Washington, D. C.), November, 1962.
29. National Safety Council. *Accident Facts*, (Chicago, Illinois), published yearly.
30. National Safety Council. "On the Level," *Traffic Safety Monograph*, (No. 1), (Chicago, Illinois).
31. Nationwide Mutual Insurance Company. "Ten Common Driving Emergencies," (Columbis, Ohio).
32. Quane, W. Laurance. "Why Not Teach People to Drink Drive," *Transaction*, Vol. 24, pp. 93-96, National Safety Council, (Chicago, Illinois), 1968.
33. Raths, Louis E., et.al. *Values and Teaching: Working With Values in the Classroom*, Charles E. Merrill Books, Inc., (Columbus, Ohio), 1966.

34. Ross, H. L. "Schematic Analysis of the Driving Situation," *Traffic Safety Research Review*, September, 1960.

35. Sopher, S. M. and W. C. Mosemon, "The Investigation of Carbon Monoxide Fatalities," *Traffic Digest and Review*, Vol. 18. No. 11, November, 1970.

36. Traffic Institute, Northwestern Univerity. "The Drinking Driver," (Part I-II), *Traffic Digest and Review*, May and June, 1966.

37. U. S. Department of Transportation. "Alcohol and Highway Safety," (A report to the Congress from the Secretary of Transportation), (Washington, D. C.), August, 1968.

38. Voas, Robert B. "Alcohol in Relation to Highway Safety," *Journal of Traffic Safety Education*, California Driver Education Association, (Anaheim, California), January, 1971.

FILMS

"Drinking and Driving," General Motors Corporation, Public Relations Staff, Film Library, (Detroit, Michigan).

"Driving and Drugs," General Motors Corporation, Public Relations Staff, Film Library, (Detroit, Michigan).

"New Look at the Old Sauce," Texas Commission on Alcohol, (Austin, Texas).

"The Final Factor," American Automobile Association Foundation for Traffic Safety. 1968.

"The Way to Go," Kemper Insurance Group, (Chicago, Illinois).

"To See Ourselves," Aetna Life & Casualty, (Hartford, Connecticut).